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Reports to Congress Executive Summary

Medicare Physician Payment

This volume presents three congressionally mandated reports that provide detailed evaluations of technical and administrative issues associated with implementing proposed physician payment systems under Medicare. It is expected that Congress will use these reports to address the issues identified herein.

☐ Volume and Intensity of Physician Services

This report was developed in compliance with the Omnibus Budget Reconciliation Act of 1987, section 4056(c)(2) of Public Law 100-203, which requires the Secretary of Health and Human Services to study and report to Congress on issues related to volume and intensity of physician services.

Overview

This report primarily focuses on Medicare Part B physicians' services which account for the majority of Part B expenditures. To support the production of this report, the Department analyzed national trends in total allowed charges for physician services, consulted with nationally recognized health research experts, and commissioned four extramural research studies. The report provides background information on volume and intensity (VI) issues, including a discussion of factors contributing to physician expenditure growth (Chapter 1), presents trends in VI growth and reviews the research commissioned by the Department to analyze VI related issues (Chapter 2), reviews Medicare's and private payers' experiences with VI control methods (Chapter 3), discusses options for protecting beneficiaries and the Medicare program from the impact of VI (Chapter 4), and concludes with a discussion of possible impacts of a resource-based relative value scale (RBRVS) on VI (Chapter 5).

Background

In FY 1990, Medicare expenditures for physicians' services will exceed $25 billion. Expenditures for physicians' services are the second largest component (after hospitals) of Medicare spending and the third largest Federal domestic program. Over the past 10 years (1978-1987), Medicare physicians' expenditures have increased at annual compound rates of 16 percent. Over the next 10 years, even without any program expansions, Medicare

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spending for physicians' services will likely triple. About the year 2005, total Medicare spending is expected to exceed spending on Social Security, in part, because of the rapid increase in physician spending. This will make Medicare the country's largest entitlement program.

About 15 percent of the increase in physician spending during the past 10 years was due to an increase in the number of beneficiaries who have increased at about 2 percent a year. About 40 percent was due to increases in payments per service, which are largely the result of adjustments for inflation. About 45 percent of the growth resulted from "residual" VI-related factors, including growth in the number of services (including those from new services and technology), and shifts from less expensive to more expensive services (greater intensity).

Forces driving the growth in VI

VI includes all factors contributing to physician expenditure increases other than changes in payments for individual services and in the covered population. The most important aspect of Medicare's physician payment system is that it gives physicians and beneficiaries little or no incentive to control VI of services.

Ideally, a full explanation of factors responsible for Part B growth would be developed from a clinical and economic model of physician and patient behavior that incorporates all clinical and economic incentives inherent in the payment practices of all third party payers. Considering the many variables determining the physician services market, it is not realistic to expect that a model can be developed that can attribute recent changes in physician expenditures to specific factors. Problems in developing a full model are compounded by inadequate data and data measurement problems, multiple simultaneous changes in the Medicare program, technological advances, and the interactive effects of Medicare and other third party payers.

Nevertheless, a number of major VI-related factors can be identified that either affect physician willingness to supply services or affect beneficiary demand for these services. Among the factors driving VI growth are: (1) payment incentives, (2) technology, (3) physician willingness to provide services, and (4) factors related to beneficiary demand for services.

Payment mechanisms have contributed to VI growth because:

- Medicare still pays for most services through traditional fee-for-service arrangements in which a separate payment is made for each service rendered by the physician. Clearly this arrangement provides few incentives for efficiency and may actually encourage the overprovision of services.
- Physicians have considerable discretion as to how they define and report services they provide. They might assign more remunerative codes to services for which they formerly assigned less remunerative codes ("upcoding") or they might bill separately for services for which they formerly billed under a single code ("unbundling").
- The current payment system contains no incentives to encourage physicians to reduce charges for procedures to reflect technological improvements, increased experience, and other factors that might lower production costs.
- Medicare often pays more to specialists than nonspecialists for similar services, and specialists represent a growing fraction of Medicare providers.

Technology has contributed to VI growth because:

- New services and treatment methods have emerged. Many of the procedures that accounted for recent growth in physician expenditures were either rarely performed or unknown when the Medicare program was legislated.
- Despite research on the effectiveness of services for certain specified conditions, there is little research base for determining whether procedures are effective in many of the circumstances in which they are used.

Physicians' willingness to provide services has contributed to VI growth because:

- There are more physicians per 100,000 of population and more of those physicians are trained in the specialties that provide the costly high technology services.
- The technology to provide services that appear useful to patients has expanded.
- The risk of malpractice suits may encourage physicians to provide services for "defensive" reasons.

Patients may be more willing to receive services because:

- Services have become available for conditions that were untreatable 20 years ago (e.g., coronary artery bypass grafts, total joint replacement).
- The inconvenience and risk of many services has dropped dramatically (e.g., ambulatory surgery, decreased operative times).
- Medigap coverage has, along with Medicaid coverage of many Medicare beneficiaries, eliminated some or all coinsurance costs for about 80 percent of beneficiaries; the growth in acceptance of assignment has reduced the cost of balance billing. As a result, many beneficiaries have no or minimal out-of-pocket cost for any covered medical service.

Research in support of this report

Considering all the important factors affecting VI that have occurred almost simultaneously, it is difficult to separate and measure their relative influence. The Department made an extensive effort to gain more information about VI issues and to respond to the congressional mandate. National trends in total allowed charges for physicians' services were examined by Health Care Financing Administration (HCFA) staff using national Part B data files. The Department consulted with nationally recognized health research experts and commissioned four extramural research studies to provide data on geographic variation in expenditure growth and to perform a wide variety of VI-related analyses. Some of the highlights from these analyses are summarized below.

Findings

During the 5-year time period from 1982 through 1987, total allowed charges[1] for physicians' services grew from $15.1 billion to $26.6 billion, an $11.5 billion increase (76 percent). By type of service, the increases in total allowed charges between 1982 and 1987 were as follows:

- Surgical related services, including surgery, assistant-at-surgery and anesthesia, increased by 85 percent and accounted for 42 percent of the overall increase in expenditures for physicians' services.
- Medical care, primarily physicians' visits, increased by 52 percent and accounted for an additional 27 percent of the increase.
- Consultations increased by 127 percent and accounted for 6 percent of the overall growth.
- Diagnostic radiology services increased by 133 percent and accounted for 12 percent of total growth. Therapeutic radiology services increased by 109 percent and accounted for 2 percent of overall growth.
- Clinical lab services increased by 84 percent, accounting for 11 percent of overall growth.

Allowed charges for physicians' services in inpatient settings increased by 27 percent between 1982 and 1987, with the largest increase occurring between 1986 and 1987

[1] Allowed charges include Part B trust fund expenditures, beneficiary deductibles, and coinsurance.

(an 11-percent increase). The increase in allowed charges for physicians' services in inpatient settings is even more striking because it occurred during a period that Medicare hospital admissions and days decreased. Notably, Medicare physician allowed charges per inpatient admission increased by 10.6 percent between 1986 and 1987.

Because Medicare allowed charges for physicians' services increased by larger amounts in other settings, the share of spending on an inpatient basis went from 62 percent in 1982 to 45 percent in 1987. In contrast, the outpatient department went from 5 percent to 16 percent of total allowed charges for physicians' services during this period. While this shift occurred because expenditures for physicians' services in outpatient settings increased more than five-fold, the very rapid year-to-year changes occurred before 1986.

Three of the studies undertaken with funding by the Department provide data for selected geographic areas. The Center for Health Economics Research reported that during the period 1983-1986 for the four States it studied (Alabama, Connecticut, Washington, and Wisconsin), expenditure increases per beneficiary varied from 13.6 percent in Wisconsin to 46.4 percent in Washington State.

Mandex, Inc., analyzed spending for physicians' services in Indiana, Washington, South Carolina, South Dakota, and North Dakota from 1983 to 1985. Mandex found that the aggregate expenditure growth ranged from an increase of 10.5 percent in North Dakota to a high of 27.3 percent in South Carolina over the 2-year period.

The Urban Institute examined expenditure growth between 1983 and 1985 by region using a 5 percent national sample of beneficiary claims from two different data sources. The Urban Institute reported that, in general, the New England and Middle Atlantic States, as well as the Mountain region, had the fastest growth rate in Medicare expenditures (19.1 percent, 18.8 percent, 21 percent, respectively) whereas the East North Central (11.5 percent) and Pacific (10.2 percent) regions had the slowest growth rates for the 2-year period.

Additional descriptive data from these studies provide important clues as to types and places of service that have experienced the most growth and factors that drive expenditure growth for individual procedures. Despite differences in methodology and data sources, these studies show that there has been dramatic growth in ambulatory surgery, especially for cataract surgery and procedures such as colonoscopies. This suggests that technological developments (e.g., flexible scopes and the extracapsular technique for cataract surgery) are an important factor affecting growth. These studies also indicate that there has been some upcoding of visits which appears to vary in amount across States.

Experience with VI control strategies

The report also discusses the experiences of Medicare, Medicaid, private insurers, and Canada with volume control strategies for physician services. The Medicare program and the carriers conduct medical review, on either a prepayment or a postpayment basis, to assure that payment will only be made for items and services that are reasonable and necessary. HCFA currently mandates 13 prepayment screens that must be utilized by all carriers. During FY 1989, carriers spent about $56 million to conduct prepayment review on about 57 million claims. According to data from the Quarterly Carrier Medical Review Report, prepayment review provides approximately $10 in program cost savings for each administrative dollar spent in support of the program.

Postpayment review is conducted by the carriers at the individual provider level. Carriers select individual providers (about 20,000 in FY 1988) for intensified review through a variety of techniques such as reviewing practice patterns for high volume procedures.

During FY 1988, HCFA spent about $14 million on postpayment review. Using current techniques that measure only actual savings, carrier quarterly reports indicate that postpayment review saves $1-2 in program dollars for each administrative dollar expended.

Postpayment review can provide significant but unmeasured additional savings through avoided costs, such as through a sentinel and educational effect in the physician community that helps reduce inappropriate billings.

Many State Medicaid programs have adopted managed care initiatives as authorized by the Omnibus Budget Reconciliation Act (OBRA) of 1981. Managed care is perceived by these States as an alternative to the control of utilization and expenditures through limitations on eligibility or payment.

A review of private payer VI initiatives was also conducted. Results from a survey of 111 commercial health insurance carriers that are members of the Health Insurance Association of America, representing 132 different health insurance plans, indicate that these private carriers continue to pay primarily for services using traditional fee-for-service methods; 111 of the 120 plans responding to the survey indicated that they pay using usual and customary charges.

In addition, the Canadian experience with regard to volume and expenditure control was reviewed. The absolute level of Canadian health care expenditures per capita is well under United States per capita expenditures. Nevertheless, the Canadian experience in controlling expenditures must be discussed in the context of its health care system. Since 1971 every Canadian province has paid for physician services under a comprehensive and universal health insurance program. There is only one payer for each province and fee levels for physicians' services are negotiated between provincial government health representatives and professional associations. Although each province has a unique payment system, the medical associations generally determine the relative fee levels for each service and negotiate annual percentage increases in payments with the provincial governments. In effect, the approach is to control total expenditures through adjusting fee levels rather than attempt to directly manage or control volume.

Controlling the impact of VI growth on Medicare

This report examines four general types of options for controlling the impact of VI growth on Medicare outlays:

- Aggregating payments
  - Capitation
  - Geographic capitation
  - Physician capitation
  - Preferred physician organizations (PPOs) and other managed care arrangements
  - Bundling of physician and facility payments/physician diagnosis-related groups (DRGs)
  - Other bundling options
  - Improved coding/definition of services
- Incentives targeted to beneficiaries
  - Beneficiary cost sharing
  - Second surgical opinion programs
- Influencing physician decisionmaking
  - Clinical guidelines and effectiveness research
  - Utilization review and coverage policy
  - Conflict of interest rules
  - Adjusting payments for services
- Growth targets

In evaluating these options, we consider their ability to control the effect of VI growth on outlays, their administrative costs and feasibility, and their likely effect on the appropriateness of medical care, on beneficiary liability and access to care, and on physician and beneficiary behavior.

Aggregating payments

Capitation

Under a capitated approach, Medicare makes a single payment in advance for all covered services for each beneficiary. In contrast to fee-for-service based payment systems, capitated systems provide incentives for providers to simultaneously control both price and VI and create a mechanism to control Medicare outlays. Capitated systems have a number of related advantages; a reduced level of Federal regulation can be achieved, for example, because the capitated providers can be assigned responsibility for payment details.

Capitated care is successful and widespread in the United States, and the number of Medicare beneficiaries enrolled in capitated systems has doubled in the last 5 years. Nevertheless, only 3 percent of Medicare beneficiaries are enrolled in capitated systems and, even with continued strong growth, other strategies are necessary for the short and medium term.

Geographic capitation

A geographic capitation system would put an organization, such as an insurer, at risk for physicians' services provided to all Medicare beneficiaries living in a geographic area, such as a State or carrier service area. In effect, the Federal Government would buy the Medicare benefit package on behalf of all Medicare beneficiaries in an area at a fixed price from a single underwriting entity. Competition could be encouraged by permitting beneficiaries to enroll in other capitated plans in the same area. Under this approach, Medicare might be able to take advantage of the benefits of dealing with capitated entities without all beneficiaries enrolling in health maintenance organizations or other capitated plans.

Physician capitation

Another alternative to making capitated payments for all Medicare services would be to make a capitated payment to physician groups that would cover some or all Part B services. As with total capitation, physician capitation shifts the risk of increasing VI from the Government to the physicians, thereby changing incentives.

Services covered could include all physician services or a package of selected services, such as primary care along with outpatient laboratory and x-rays. The individual primary care physician or group practice could receive a capitated payment for the primary care of each enrolled beneficiary. An advantage of physician capitation is that the total amount of risk is less than when all services are capitated because the relatively more expensive hospital costs are excluded from the capitated payment.

PPOs and other managed care arrangements

A PPO is a network of providers who agree to provide health care services under certain constraints (such as lower fees or increased utilization review) in exchange for expected advantages, such as prompt payment and an increased volume of patients. The savings from PPOs are generally achieved through efforts such as utilization review, hospital precertification, concurrent review of inpatient days, discounted fees, and directing patients to preferred providers.

PPOs, prepaid plans, and other insurance programs often employ case management techniques as a method of controlling expenditures for especially expensive patients through directly managing use of services, offering special benefits, and directing patients to particular sources of care.

HCFA is developing a PPO demonstration involving five sites to test the feasibility of offering Medicare beneficiaries the option of receiving managed health care services on a fee-for-service basis.

Bundling physician and facility payments/physician DRGs

At present, Medicare makes a separate payment for each physicians' service and also makes a payment to the facility when services are provided in facilities such as hospitals and ambulatory surgical centers (ASC). VI of some physicians' services might be controlled by making a single payment for all associated physician charges. This payment could be combined with the payment to the facility, or could be made separately to a physician group or the medical staff. In general, bundled payments contain incentives for providers to reduce the use of marginal procedures and reduce the opportunity for discretionary billing of services. There are many possibilities for developing prospective, per case payments for physician services, such as including selected services performed in inpatient (e.g., physician DRGs) or outpatient hospitals and ASCs. Medicare has begun implementation of a demonstration in which a single payment will be made for all services associated with coronary artery bypass surgery.

Other bundling options

There are other less extensive bundling approaches that might help Medicare to achieve cost control of some services by redefining the payment unit from a narrow procedure to a more comprehensive packaging of services. An example might be to develop office visit packages in which the visit charge would include all associated ancillary services (e.g., lab tests, x-rays, electrocardiograms). Another bundling approach would be to include the office visit charge in the charge for some minor surgical and diagnostic procedures such as skin lesion removals. In these instances, separate bills for visits would not be allowed unless it were clear that other significant services were provided during the visit.

Improved coding/definition of services

More precise coding rules could reduce both upcoding and unbundling for some services. One area in which upcoding is of special concern is for services such as office visits, hospital visits, and consultations). Possible solutions could be to collapse the number of codes used for payment purposes or to incorporate time spent by the physician in providing the service.

Incentives targeted to beneficiaries

Beneficiary cost sharing

Currently, Medicare beneficiaries are responsible for the first $75 of covered services before Medicare begins to pay for service. (This "deductible" amount was set at $50 in 1966 and was raised to $60 in 1973 and $75 in 1982.) After the deductible is met, the beneficiary is responsible for 20 percent of the allowed charge per service and, for unassigned claims, any amount by which the actual charge, as limited by the maximum allowable actual charge, exceeds the allowed charge. The goal of cost sharing is to give beneficiaries an interest in selecting less costly providers and in questioning the necessity of services by making them more sensitive to cost.

Second surgical opinion programs (SSOP)

Surgery accounted for about 41 percent of the total increase in physician spending over a recent 5-year period (1982-87). In an attempt to reduce unnecessary risk to patients and control surgical spending, Medicare and many private payers and Medicaid programs use SSOPs to ensure that the proposed surgery is medically necessary. Medicare encourages second surgical opinions by paying for them and by maintaining hotlines through which beneficiaries can obtain names of physicians qualified to provide second or even third opinions. In addition, as required by the Consolidated Omnibus Budget Reconciliation Act

of 1985 (Public Law 99-272), Peer Review Organizations (PROs) subject at least 10 surgical procedures to preadmission and/or preprocedure review and may require a second opinion when appropriate.

Influencing physician decionmaking

Clinical guidelines and effectiveness research

Clinical guidelines and effectiveness research seek to provide physicians and others with information to assist in determining the type of care that should be rendered to a particular patient. Effectiveness research may have implications regarding what services will be covered even though the primary goal is to influence decisionmaking by providing better data. The argument for this strategy is the shortage of consensus and hard data as to when procedures should be done. It should be noted that neither guidelines based on consensus nor effectiveness research will necessarily reduce VI of services; effectiveness research could lead to increased use of some services.

Utilization review and coverage policy

Utilization review depends on organizations such as Medicare carriers, PROs, insurers, and medical societies to change physician behavior through education, withholding payment, or other sanctions. Utilization review may operate three ways: (1) prospectively, before service is rendered, through methods such as pre-admission screening and second surgical opinions, (2) concurrently, through monitoring care during treatment, and (3) retrospectively, through reviews of claims and medical records, either before or after payment is made. It might be possible to increase utilization review activities for physicians with large increases in Medicare VI, or in geographic areas where the number of procedures per beneficiary is largest. Coverage policy is closely related to utilization review, although the administrative structures are different. Coverage policy is the method by which Medicare defines the services for which it will pay and the circumstances in which it will pay.

Conflict of interest rules

There is a potential conflict of interest any time a physician's decision regarding providing or ordering a service may increase his/her profit. In a fee-for-service system, some such conflicts are inevitable, but certain situations create even more powerful conflicts. For example, conflict of interest concerns are raised by the possibility that physicians might overprescribe drugs when they dispense them directly to patients. Conflict of interest concerns are also raised when physicians own imaging facilities or laboratories to which they refer patients. Subsequent growth in VI of those services raises inevitable suspicions in the minds of the public and Federal officials. There is little direct evidence about actual inducements resulting from such arrangements, and consequently, as to the savings that forbidding such referrals might achieve. In areas where the physicians owned the only facilities, conflict of interest rules might even create barriers to care.

Adjusting payments for services

Some economists believe that inequitable payment rates might create economic incentives for physicians to inappropriately perform some services. This suggests that it might be possible to moderate volume growth of some services through selected payment adjustments based, for example, on inherent reasonableness or on recent research on relative values for physician services. It is unlikely, however, that modifying relative payment amounts could result in a significant slowing of volume growth. Basic fee-for-service incentives to increase volume would remain in place. Furthermore, physicians might respond to decreased payments by attempting to recoup lost income in unpredictable ways (e.g., by increasing volume of the service receiving the reduced payment or by inappropriately performing other, more profitable services).

Growth targets

Growth targets can be set by determining in advance an acceptable level of aggregate Medicare expenditures for a given geographic area and time period. A widely discussed model would vary the annual physician fee update based on a comparison between actual and targeted program outlays in a preceding period. Growth targets can be set at the national level or at some other geographic level. Medicare could set a growth target for the year for a group of services, all physician services, all Part B services, or even all Part A and Part B services. This method would not control VI directly, but could shield Medicare trust funds from the impact of VI growth since costs to Medicare would be controlled directly through the payment per service.

Although growth targets raise policy issues that are discussed in the report, they, in fact, do not reflect a major change from recent policy experience whereby the Medicare annual payment update has been reduced to partially offset large expenditure increases. A growth target has one potential advantage compared with this de facto policy. Growth targets are intended to create a collective incentive to encourage the medical community to work cooperatively with the Medicare program to identify and correct problems related to unnecessary care. A more direct linkage between the collective incentives of the growth target and the practice patterns of individual physicians might be established by an "opt-out" option for qualified physician groups. Under this policy, a physician group (such as a PPO or a hospital medical staff) could opt-out of the general growth target. Such a group would then receive a fee update based on the cost performance of the group in relation to the target rate. This would provide incentives for physician groups to be organized to provide care in a cost-effective manner.

A variety of design questions would need to be addressed to develop a growth target policy. These include: (1) the range of services to be included in the target, (2) whether the target should apply at a national, statewide, or substate basis, (3) what factors should be used to establish and update the target, (4) the nature of the fee adjustment that would result if the target is exceeded, (5) whether there should be a withhold from current year payments or an adjustment in fee levels in the subsequent year after the end of the target period, and (6) whether there should be an opt-out for qualified physician groups, and if so, what the terms of the policy should be.

Impact of RBRVS on VI

For years economists have inconclusively debated whether growth in VI was driven predominantly by physicians inducing patients to accept services or by patient demand. This debate has usually focused around issues such as whether physicians seek to attain a target income and whether physicians can induce demand for their services. This debate has important implications for the implementation of an RBRVS for payment purpose such as the one being developed by William C. Hsiao, Ph.D., and other researchers at Harvard University under a cooperative agreement with HCFA.

It is clear from preliminary analyses that most RBRVS-based payment schemes implemented in a budget neutral fashion would substantially alter payments for a significant number of services, generally increasing payments for visits and decreasing payments for many surgical procedures. Under many scenarios, these payment changes could be substantially greater than any previous payment change implemented by the Medicare program. Thus, there is no precedent from which to predict confidently how physicians can or will respond to payments based on an RBRVS. Response is likely to depend not only on physicians' ability to recoup losses by inducing volume, but also on many other factors such as ability to substitute other services, the amount of discretion the physician has as to billing for services, the degree of physician dependence on income from Medicare, ability to recapture Medicare losses from non-Medicare patients, and on whether other payers also adopt payment schedules based on RBRVS.

Projections of physician response to an RBRVS are uncertain. Nevertheless, this response is important for two reasons: (1) Budget impacts would need to be assessed if an RBRVS were adopted as a basis for payment. Analysis of budget impacts would require a prediction of how great a volume of services will be provided, and this volume depends, in turn, on how much specialists increase their volume of services to recoup reduced payments. (2) If there is a substantial induction of demand by physicians in response to decreased payments, Medicare's problems with VI growth might become appreciably worse.

Because of this uncertainty as to behaviorial response, the most prudent approach to implementing an RBRVS might be to adopt an expenditure growth target that would enable Medicare to take care of any behaviorial response as it took place. A growth target would also take account of features of implementation that could not be made precisely budget neutral, such as changes in global fee definitions and changes in geographic areas used for payment determinations.

☐ Relative Value Scales for Physician Services

This report was developed in compliance with the Consolidated Omnibus Budget Reconciliation Act of 1985 (Public Law 99-272), which requires the Secretary of Health and Human Services to develop a relative value scale (RVS) for physicians' services and to make recommendations to Congress for using this scale for determining Medicare payments.

Overview

An RVS is a set of numerical values, one for each service that physicians or other medical care providers may provide, reflecting the relative "valuation" of each service. By itself, an RVS does not set payment. To turn the RVS into a fee schedule, the relative values must be multiplied by a monetary conversion factor (e.g., $10 per unit). The valuation incorporated into the RVS can be determined in many ways -- from current charges, from consensus among physicians or between payers and physicians or among patients; by unilateral decisions of the payer; or from the resources used in provision of service. An RVS based on resources use is called a resource-based RVS or RBRVS.

This report focuses, because of strong interest in Congress and elsewhere, on the viability, development, evaluation, strengths, weaknesses, and possible uses of the RBRVS developed at Harvard University by William C. Hsiao, Ph.D., and his colleagues, under a cooperative agreement with the Health Care Financing Administration (HCFA). The report describes general issues in the current Medicare payment system, including motivation for RVSs, and in the construction of RVSs (Chapter 1); explains how the Harvard team developed the Harvard RBRVS (Chapter 2); examines methodological issues in the design of the RBRVS (Chapter 3); and presents simulations (Chapter 4) of the impact of various payment options for physician payment under Medicare based upon RVSs, including the Harvard RBRVS, additive models based upon the Harvard RBRVS, and a charge-based RVS. This chapter also presents discussions on adjustments to reflect differences in practice costs among geographic areas. The report concludes with a discussion of the advisability and feasibility of using the Harvard RBRVS or variations of it for Medicare payment purposes.

Background

Since Medicare began, the Supplementary Medical Insurance program (Part B) has paid physicians using a fee-for-service system called "customary, prevailing, and reasonable" (CPR) (Appendix A describes the CPR system in detail). Under CPR, physician payments are based upon physicians' actual charges to the Medicare program.

Available evidence indicates that CPR has provided access to physician care and financial protection for Medicare beneficiaries. CPR has been less successful by other criteria: fees, volume and intensity of services, and overall expenditures have increased

dramatically in the last decade. Between 1975 and 1987, Medicare's Part B expenditures per enrollee grew at an annual rate of 15.0 percent, while per capita Gross National Product grew at only 7.9 percent. There is general agreement that, to the extent that this growth is attributable to the payment system, the problem is fee-for-service payment and that an RVS or any other fee-schedule based payment system would probably not have reduced growth greatly.

The CPR system is complex, and some critics contend that simplification of the system should be an important goal of any reform, but given the need to update any RVS over time, an RVS-based payment system would not necessarily be simpler. The Harvard study documents that CPR has also resulted in payments that are higher for technological and invasive procedures than for evaluation and management services that require comparable resources as defined by the study. Critics of CPR argue this payment differential uses Medicare funds inefficiently, discourages primary care, and is inequitable to physicians across specialties. These critics argue that the relatively higher payments for technological procedures encourages unnecessary provision of these procedures, thus raising total costs while paying more for these procedures than is necessary to secure access to care for Medicare beneficiaries. As with other claims made criticizing or supporting either CPR or a resource-based payment system, there has been little empirical work performed that either substantiates or refutes the claim that payment rates under CPR encourage inappropriate care or, alternatively, that resource based payment would reduce inappropriate care. Moreover, plausible theoretical arguments can be made on both sides of the issue.

If, however, payments under CPR are excessive for technological and invasive procedures, it is unclear whether beneficiaries would still have access to such services if payments for these services were cut. Access to primary care does not currently appear to be a problem at the national level, although there may be localized access problems. The extent to which this is a problem of the payment system as opposed to the other problems faced by underserved areas is not clear. Differences in payments for different services may be inequitable if equity requires equal pay for comparable work, but the question of equity is less clear if one takes account of factors such as the supply of specialties, the desires of beneficiaries for services, and medical and social value of the services.

While it is clear that the Harvard RBRVS cannot resolve all complaints against the current Medicare fee-for-service payment system and, more specifically, CPR, its advocates urge that it can:

- Provide a tool for simplifying the payment system.
- Address both the equity and efficiency issues, by revaluing procedures relative to their resource inputs and reducing incentives to provide an excess of certain services while encouraging provision of others.
- Equalize incentives across procedures, resulting, at least in theory, in more appropriate care for the Medicare beneficiary.

Again, the claim that the Harvard RBRVS could achieve these goals has not been substantiated by empirical evidence. In addition, many of these claims could be made for other RVS-based payment systems. For that reason, this report also discusses modifications of the Harvard RBRVS as well as a charge-based RVS.

Nonetheless, an RVS-based fee schedule, like other fee-for-service approaches to payment reform, does not directly address the growth in volume and intensity of services that has been the main component in the increase in Medicare expenditures.

Construction of the Harvard RBRVS

The goal of the Harvard study was to develop an RBRVS by measuring the resource inputs used in producing a service.

The construction of the Harvard RBRVS was a multistep process. The first step was to estimate the amount of work provided by the physician during the actual performance of the procedure (intraservice work). The Harvard study team determined that Current Procedural Terminology, Fourth Edition (CPT-4) codes should not be used directly as the basis for surveying physicians to estimate resource use. As a result, the Harvard team created vignettes and surveyed physicians to estimate work for the vignettes. Because CPT is the basis of the coding system under which physicians are paid under Medicare, it was then necessary to assign the appropriate CPT codes to these vignettes. These ratings were done on a specialty specific basis and resulted in 18 different scales.

Second, statistical techniques and physician consensus were used to merge these 18 scales, resulting in one scale that contained relative intraservice work values for all surveyed procedures in the included specialties. Since this scale included only work performed during the procedure and not work done by the physician before (pre-service work) or after (post-service work) the procedure itself, estimates for these types of work were generated and added onto the work values. This resulted in an RVS for total work.

Next, because only 372 unique services were actually surveyed, it was necessary to extrapolate to the nonsurveyed procedures. The underlying assumption for extrapolation was that, within small families of CPT-4 codes, charge ratios are reasonable proxies for relative work differences.

The study team developed a model that measured two input resources in addition to physician work: practice costs and opportunity costs. Practice cost information was derived from specialty-specific national survey data; opportunity costs were measured by attributing costs to the earnings lost during specialty training. In the Harvard model, the three factors combine multiplicatively to produce the RBRV for each service:

$$RBRV=(TW)(1+RPC)(1+AST)$$

where TW is the total work input by the physician, RPC is an index of relative practice costs, and AST is an index of relative amortized opportunity cost of specialty training. There is not broad-based agreement that this is the most appropriate model for determining the RBRV; another approach that has been discussed is that costs attributable to physician work be added to those attributable to practice costs rather than multiplied.

Results

The study found that there was roughly 200-fold variation in resource inputs across services. Comparison of 1986 Medicare charges to Harvard RBRVS values for invasive procedures and office visits showed that the typical ratio for invasive procedures was more than three times greater than the ratio for office visits, implying that office visits are relatively underpaid. The Harvard team compared 1986 Medicare mean charges to Harvard RBRVS-based charges and found that many surgical procedures could vary in payments between the two by more than 60 percent.

Critique of the Harvard RBRVS

HCFA extensively reviewed and analyzed the study and its results. In performing the analysis, HCFA consulted with experts in the fields of medicine, statistics, and economics, solicited comments from physician specialty groups and conducted extensive simulations. Generally, the Harvard study represents a methodologically rigorous effort to measure resource use. The study demonstrates that it is possible to use physician resource inputs to establish RVSs within specialties and demonstrates that it is possible to align these specialty-specific scales to create a common scale of relative values that are meaningful across specialties.

The Harvard RBRVS, as it is currently constructed, however, is not yet ready for full implementation. In addition to the obvious fact that the study included only 18 specialties,

there are a number of significant concerns with the study itself, and several significant issues that would have to be resolved before the Harvard RBRVS could be fully implemented for Medicare payment purposes. Many of these appear to be solvable, but they may require a large allocation of resources. The major issues raised by the Harvard RBRVS follow:

- Because the Harvard RBRVS focuses only on resource input, it ignores the role of demand in determining prices. As such it ignores the value that patients attach to particular services. This implies that payments that might be set under this system may not be any closer to optimal economic prices than those that currently exist.
- Measurement of work during the performance of the service (intraservice work) and the assignment of the vignettes to the CPT codes raised a number of concerns:

  The vignettes did not necessarily reflect the Medicare population. Thus, if the work required to perform a service for those above age 65 is different than the work required for the general population, the resulting relative values, when used for the Medicare population, will be biased.

  There was apparently some difficulty in assigning the appropriate CPT codes to vignettes, particularly for visit codes. The difficulty with visit codes led the Harvard team to propose a separate methodology to derive relative values for visit codes. This methodology involved the use of time in the definition of CPT codes for visits, a step that would involve substantial implementation issues.

  Since the process of assigning CPT codes was independent of the designing of the vignettes, the vignettes may not represent average resources for the CPT code in question.
- Although estimates of intrawork were obtained by survey for approximately 400 services, estimates of pre- and post-service work were not obtained by survey. To generate these estimates, 153 of the approximately 400 services surveyed for intrawork were surveyed to obtain estimates of pre- and post-service time. These surveyed values were used to estimate pre- and post-service times for the remainder. Finally, estimates of pre- and post-service work were derived by making assumptions about the relationships between intraservice and pre- and post-service values and estimating values from intraservice results. There are significant questions as to the validity of this methodology for pre- and post-service work which represent as much as 46 percent of total work for some procedures.
- The validity of the common scale that crosses specialties hinges on identifying linking procedures across specialties. While there is no evidence to suggest that the linking procedures are not valid, there is some question as to whether different panels of physicians would have identified different procedures. Defining different procedures could change the locations of procedures on the common scale and change the relative values.
- Practice costs represent approximately 45 percent of physicians' gross revenues and a comparable portion of input into physician services. Relative values, and hence payments, can vary substantially based on the choice of allocation method used. A variety of allocation methods are possible, including methods developed by the Harvard team, by the Physician Payment Review Commission (PPRC), and by HCFA. Unfortunately, there are insufficient data to determine which method is most accurate. This area needs further study.
- Practice costs and opportunity costs are calculated by specialty, not by service. This implies that any procedure performed by specialties with different practice costs will be paid differently. It is the case, however, that there is no one theoretically correct way to allocate practice costs.
- Relative values, practice cost factors, and opportunity cost factors are related to factors such as the state of technology and the market for medical services. Thus, relative values are not constant over time, and they will have to be updated periodically. This updating could involve a major analytic effort.

- Surveyed codes accounted for more than 30 percent of allowed charges for the included specialties. The extrapolated codes accounted for more than 20 percent and the visit code methodology accounted for more than 35 percent. The extrapolation methodology assumes that within small families of procedures, relative charges are good proxies for differences in work. Although, in general, the assumption that charges vary systematically with physician effort is justifiable, it appears that this methodology is not universally appropriate and significant questions have been raised as to the overall validity of the method. If relative charges within families do not accurately reflect relative work differences, then the resulting relative values obtained from this methodology will not be appropriate. It was also found that when a family contained more than one surveyed service, the resulting extrapolated values within that family could differ by 10 percent depending upon which surveyed service is used as the benchmark in one family and nearly 50 percent in another. The typical variation is unknown, but may be substantial.
- The definition of "global" fees for surgery used by Harvard was not consistent with that used by any Medicare carriers. Since the global fee packages used in the study usually consist of fewer services than are included in Medicare global fee packages, Harvard's relative values are usually biased downward. Conforming the RBRVS to a uniform definition will be complex and would require careful implementation.
- Harvard had difficulty in obtaining estimates of relative values for procedures that involve both professional and technical components. Some survey respondents appear to have incorrectly provided time estimates for both components. In addition, the final data of the study identify all radiology procedures as "unresolved."
- The Harvard RBRVS assumes that specialty differentials should exist if they reflect different costs of practice and medical education. The appropriateness of paying different amounts for similar services is unclear.

Addressing issues raised by the critique

Harvard has initiated an analytic plan to assess the methodological and usage issues in further detail. Among the issues that Harvard hopes to study further are: validation of all results, more precise estimation of pre- and post-service work, coding for visit codes, extrapolation, and the reliability and validity of the linking procedures used in creating the common scale. Many of these issues may be resolved through increased data collection and analysis. Other options for the functional form are being examined by PPRC and HCFA.

The impact issue

If it is considered valid, the Harvard RBRVS could be used in a number of ways for Medicare payment purposes. Among the potential uses are: 1) to identify "overpriced" procedures and then to limit payments or charges for these procedures; and 2) to establish a Medicare payment schedule.

HCFA performed simulations of a fee schedule based upon the Harvard RBRVS to determine the impact of using it as a basis for a fee schedule for payment for physician services based upon the assumption that any fee schedule would be budget neutral. In addition, HCFA simulated the effects of fee schedules based upon a modification of the Harvard RBRVS using an additive model, as well as a charge-based RVS.

Simulations of the Harvard RBRVS showed that it would result in substantial redistributions. While many of the specialties in question would not experience very large redistributions, others would. Specialties such as family practice and internal medicine would experience large gains under the Harvard RBRVS, while thoracic surgery, radiology, and ophthalmology would be large net losers. The Harvard RBRVS would also often result in large geographic redistributions. These redistributions could, in turn, be affected by the use of a geographic practice cost index that takes into consideration differences in practice costs among localities.

In general, payment for invasive procedures would decrease, while payment for evaluation and management procedures would increase under a payment system based upon the Harvard RBRVS. Using the additive model modifications of the Harvard RBRVS would tend to moderate these redistributions among specialties. Specialties that would gain under the additive models gain less; losers would lose less. It would not necessarily affect geographic redistributions. Under a charge-based RVS, redistributions would be even less. This is so because such a schedule would tend to institutionalize the current payment structure.

Simulations of various models were also performed to estimate changes in beneficiary liability. These simulations were performed for the additive models. They showed that, although an additive variation of the Harvard RBRVS would have major implications for specialties and procedures, on the national level, it would not appreciably affect beneficiary out-of-pocket liability.

☐ Implementation of a National Fee Schedule

Pursuant to section 4056(c)(1) of the Omnibus Budget Reconciliation Act of 1987, this report was prepared from the Secretary of Health and Human Services to Congress on technical and operational issues that would be raised by implementing a national Medicare fee schedule for physician payment. The report has three sections: transition and major policies, ancillary policies, and post-implementation issues.

Transition and major policies

If a resource-based relative value scale (RBRVS) is enacted, the Department recommends a transition period of several years, prior to full implementation. During this period, charge-based fee schedule payments would begin. There would next be a blend of RBRVS and charge-based RVS payments; and, finally, payment based solely on RBRVS would be instituted. This type of transition is recommended in order to:

- Insure accuracy of payments.
- Achieve budget sensitive payment results, while making geographic and coding changes.
- Determine behavioral changes occurring as payment is based more and more on RBRVS.
- Identify emerging beneficiary access problems.
- Make mid-course payment corrections or adjustments, where appropriate.

Alternative implementation models

There are basically two implementation approaches. One approach (i.e., Model 1) is to implement the fee schedule all at once with no phase in. Under this approach, the current payment system would remain in effect, probably through 1992 and, during this period, new geographic areas and uniform codes and global surgical packages would be instituted.

Model 2 provides for a phase-in period, during which payments are made, in part, on the basis of an RBRVS fee schedule. This is the approach we are recommending.

Uniform code definitions

We recommend:

- Uniform global surgical packages based on the current dominant practice.
- Clarification of ambiguous codes.
- Collapsing of many seldom-used codes.

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Geographic adjustment

If differentials based on geography are to be recognized, current work must be completed on various geographic practice cost indices. Also, a decision must be made regarding whether current payment localities would be retained under a national fee schedule. If metropolitan statistical areas are chosen as localities, significant technical issues arise if budget neutral or budget sensitive expenditures are to be maintained.

Conversion factors and budget neutrality

If conversion factors are to be "budget neutral," we recommend that, in the statute, the Secretary be given substantial latitude in defining budget neutrality. This is because of data problems that would be associated with standardizing geographic areas, service definitions, and global packages during fee schedule implementation.

Ancillary policies

Generally, we are recommending that the Secretary be given the discretion to address these policies by regulation. The policies include such issues as how to pay for multiple procedures, bilateral procedures, and care rendered by assistants-at-surgery under a fee schedule.

Post-implementation issues

New and changed codes

We recommend that, for new services (i.e., services without national relative values), fee schedule payment be made on the basis of locally established relative values.

When Current Procedural Terminology code revisions are made annually (i.e., for existing services), we recommend immediately establishing relative values for the revised codes by making appropriate adjustments to the relative value(s) of the predecessor code(s). The nature of the adjustments would depend on the nature of the code change(s).

Relative value and conversion factor updates

We recommend:

- Relative value revisions every 5 years to reflect practice cost and work changes.
- 3-year update intervals to reflect new services.
- An annual conversion factor update.